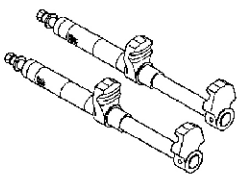
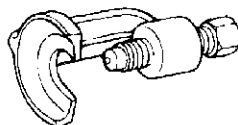


**2004-05 SUSPENSION**

**Rear Suspension - Sedona**

**GENERAL**

**SPECIAL SERVICE TOOLS**

Tool (Number and Name)	Illustration	Use
OK2A1 341 AA1A Coil spring comp		Used to remove and install coil spring.
OK130 283 021 Ball joint puller		Used to remove tie rod and ball joint.

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**Fig. 1: Illustrating Service Tools**  
**Courtesy of KIA MOTORS AMERICA, INC.**

**SYMPTOM-RELATED DIAGNOSTIC PROCEDURE**

**SUSPENSION SYSTEM**

## 2005 Kia Sedona EX

### 2004-05 SUSPENSION Rear Suspension - Sedona

Problem	Possible cause	Action
Body rolls	Deteriorated stabilizer bar and stabilizer control links Worn or deteriorated stabilizer bar bushing Worn or deteriorated lower arm bushing Shock absorber malfunction	Replace Replace Replace Replace
Poor riding comfort	Weak coil spring Shock absorber malfunction	Replace Replace
Abnormal noise from suspension	Poor lubrication or wear of lower arm ball joint Shock absorber malfunction Worn or deteriorated stabilizer bar bushing Worn or deteriorated lower arm bushing	Replace, Lubricate Replace Replace Replace
Instable riding	Weak coil spring Shock absorber malfunction Worn or deteriorated lower arm bushing Worn or deteriorated stabilizer bar bushing Improperly adjusted wheel alignment Damaged lower arm ball joint Steering system malfunction Deformed or unbalanced wheel	Replace Replace Replace Replace Adjust Replace <i>Refer to section ST Gr.</i> <i>Refer to next page</i>
Heavy steering wheel operation	Poor lubrication or wear of lower arm ball joint Improperly adjusted wheel alignment Steering system malfunction Deformed or unbalanced wheel	Replace, Lubricate Adjust <i>Refer to section ST GR.</i> <i>Refer to next page</i>
Steering pulls to one side	Weak coil spring Worn or deteriorated stabilizer bar bushing Worn or deteriorated lower arm bushing Damaged lower arm ball joint Improperly adjusted wheel alignment Steering system malfunction Brake system malfunction Deformed or unbalanced wheel	Replace Replace Replace Replace Replace <i>Refer to section ST Gr.</i> <i>Refer to section BR Gr.</i> <i>Refer to next page</i>
Steering wheel vibrates	Damaged lower arm ball joint Shock absorber malfunction Loose shock absorber installation Worn or deteriorated lower arm bush Worn or deteriorated stabilizer bar bush Improperly adjusted wheel alignment Worn or damaged wheel bearing Steering system malfunction Deformed or unbalanced wheel	Replace Replace Tighten Replace Replace Adjust Replace <i>Refer to section ST Gr.</i> <i>Refer to next page</i>
Steering wheel does not return	Lower arm ball joint stuck or damaged Improperly adjusted wheel alignment Steering system malfunction Deformed or unbalanced wheel	Replace Adjust <i>Refer to section ST Gr.</i> <i>Refer to next page</i>

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**Fig. 2: Diagnostic Procedure Chart**  
Courtesy of KIA MOTORS AMERICA, INC.

## SPECIFICATIONS

### SUSPENSION SYSTEM

Item				Specification
Front	Suspension type			Macpherson strut
	Shock absorber			Double-acting, Gas filled
	Stabilizer	Type		Torsion bar
		Diameter	in (mm)	1.02 (ø26)
	Wheel alignment	Toe	No passenger load	-0.04±0.1 (-0.9±2.5)
			Five passenger load	-0.01±0.1 (-0.3±2.5)
		Camber	No passenger load	0.51°±0.5°
			Five passengers load	0.26°±0.5°
		Caster	No passenger load	1.88°±0.5°
Five passengers load			1.94°±0.5°	
Rear	Suspension type			Five links & coil
	Shock absorber			Double-acting, Gas filled
	Stabilizer	Type		Torsion bar
		Diameter	in (mm)	1.18 (ø30)

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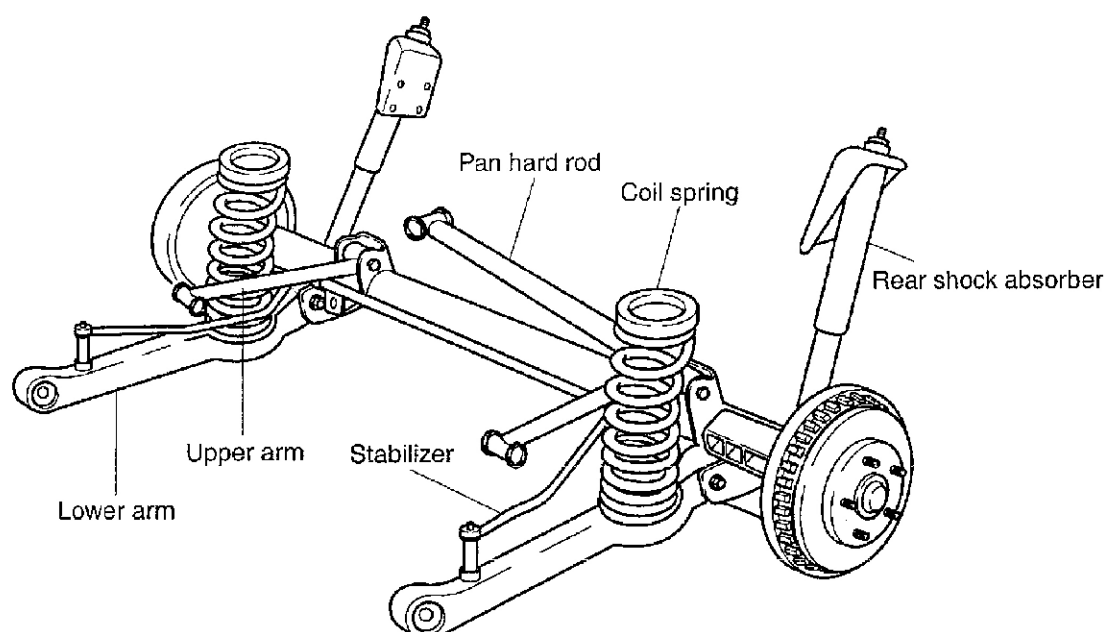
**Fig. 3: Suspension System Specifications**

Courtesy of KIA MOTORS AMERICA, INC.

## REAR SUSPENSION SYSTEM

### COMPONENT

**CAUTION:** When tightening (by specified torque) the nuts of the arms and links of the rear suspension system, the wheels of the vehicle shall be in contact with ground and under loads (2 passengers load at the front seats if possible).



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**Fig. 4: Illustrating Rear Suspension System Components**  
Courtesy of KIA MOTORS AMERICA, INC.

### DESCRIPTION AND OPERATION

#### Rear suspension

The rear suspension design on this vehicle uses coil springs, five links, shock absorber, stabilizer and rear axle assembly.

It is designed to handle the various load requirements of the vehicle. The rear coil springs provide a comfortable unloaded ride and also ample rear suspension travel when the vehicle is loaded.

#### Rear wheel alignment

Alignment adjustment is not required. The rear axle alignment settings are preset at the factory, therefore no alignment is necessary.

#### Panhard rod

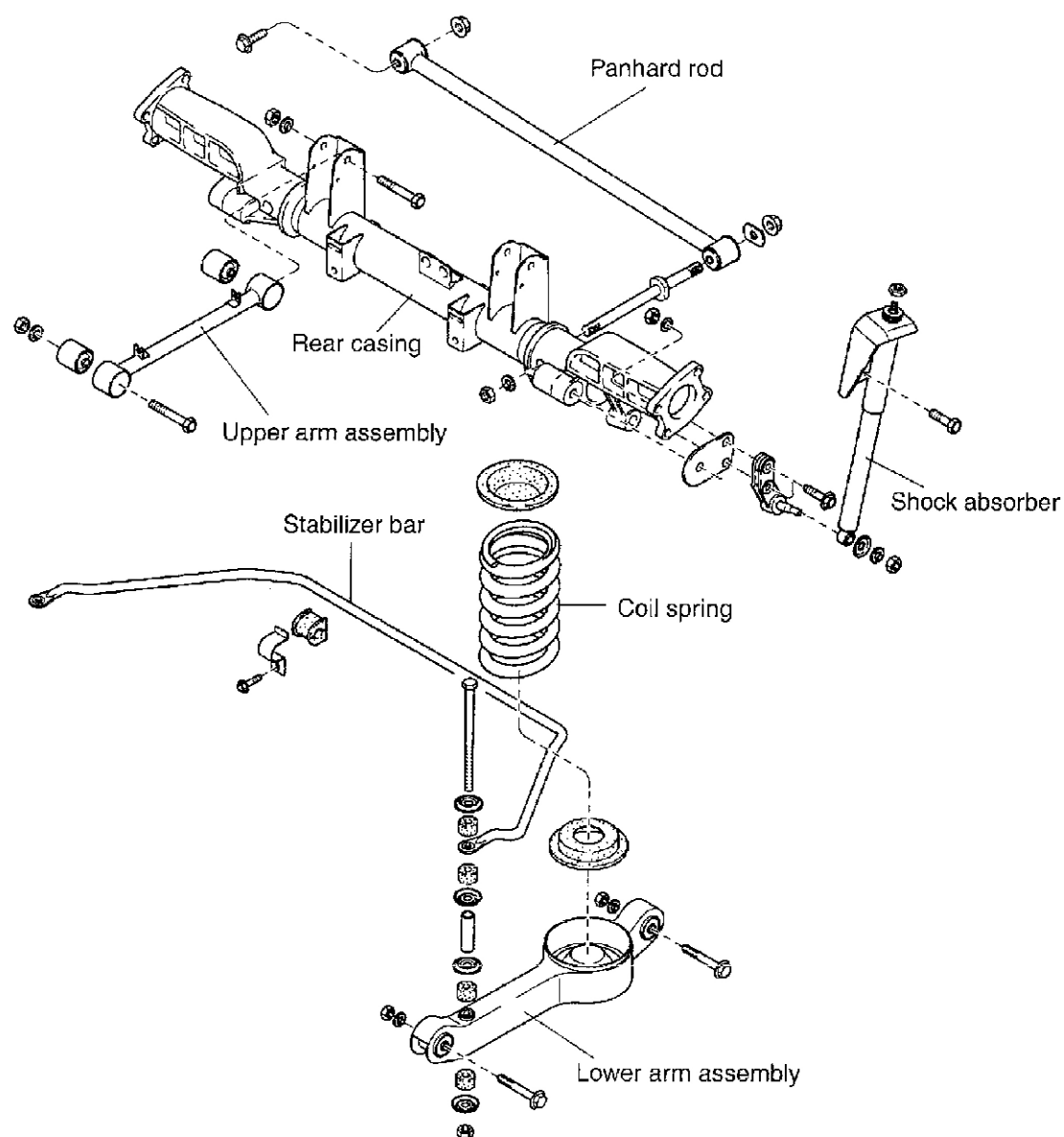
The panhard rod prevents excessive side to side movement of the rear axle. The panhard rod is used to keep the location of the axle in the correct position for optimum handling and control of the vehicle.

#### Stabilizer bar

The stabilizer bar interconnects both sides of the rear axle and attaches to the rear lower arm jounce. Rebound movements affecting one wheel are partially transmitted to the opposite wheel to reduce body roll. All parts are serviceable, and axle bushings to the stabilizer are split for easy removal and replacement.

## CASING

## COMPONENT



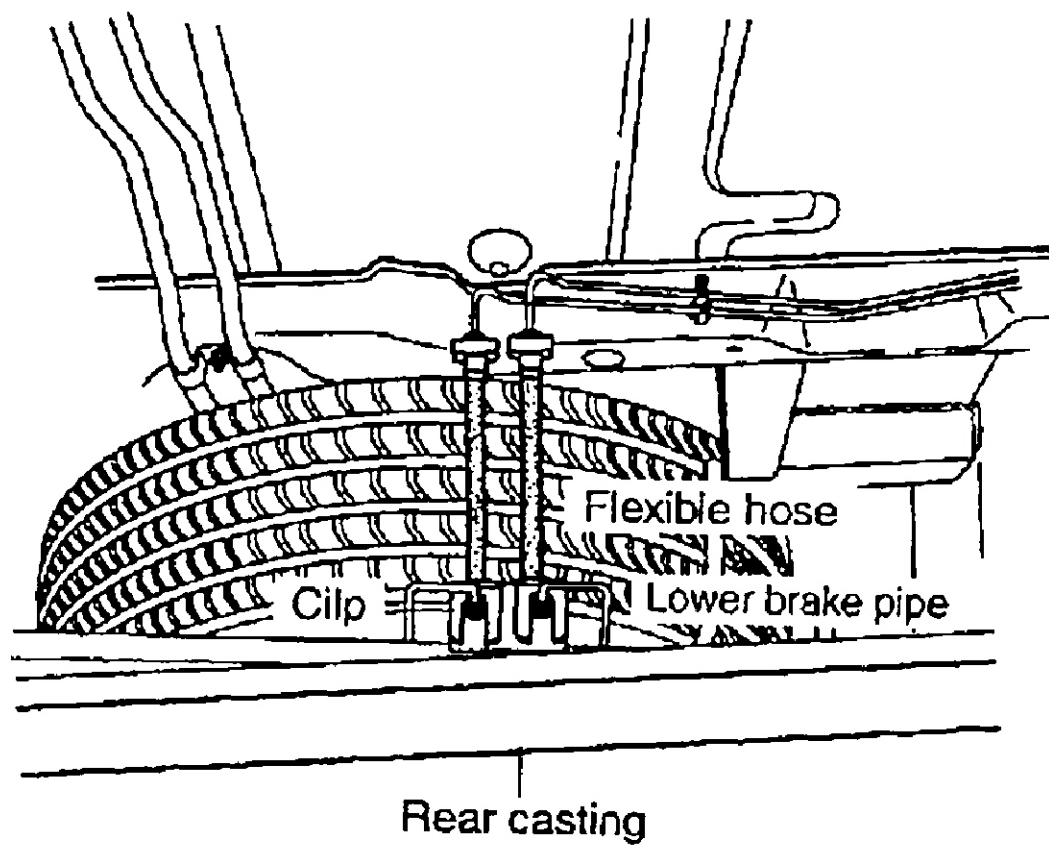
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**Fig. 5: Illustrating Casing Components**  
Courtesy of KIA MOTORS AMERICA, INC.

## REMOVAL

1. Raise the rear of vehicle and support it with safety stands.
2. Remove the rear wheels.
3. Disconnect lower brake pipes and flexible hoses after loosening the brake pipe nuts and pulling out the flexible hose clips.

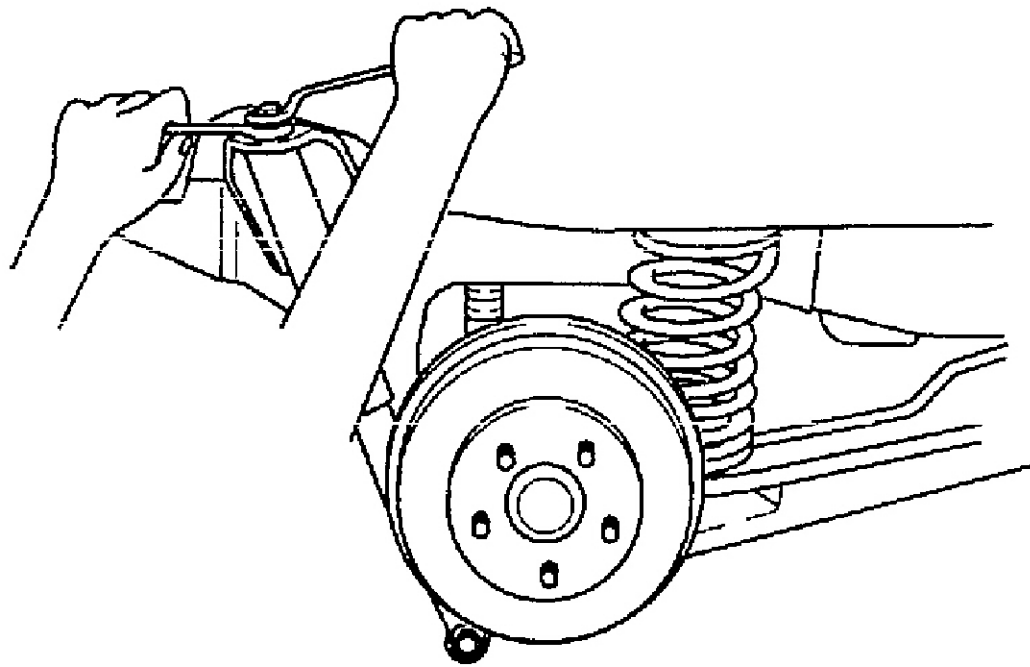
**NOTE:** After disconnecting lower brake pipes, plug them to prevent leakage of fluid from the flexible hoses.



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**Fig. 6: Disconnecting Lower Brake Pipes & Flexible Hoses**  
Courtesy of KIA MOTORS AMERICA, INC.

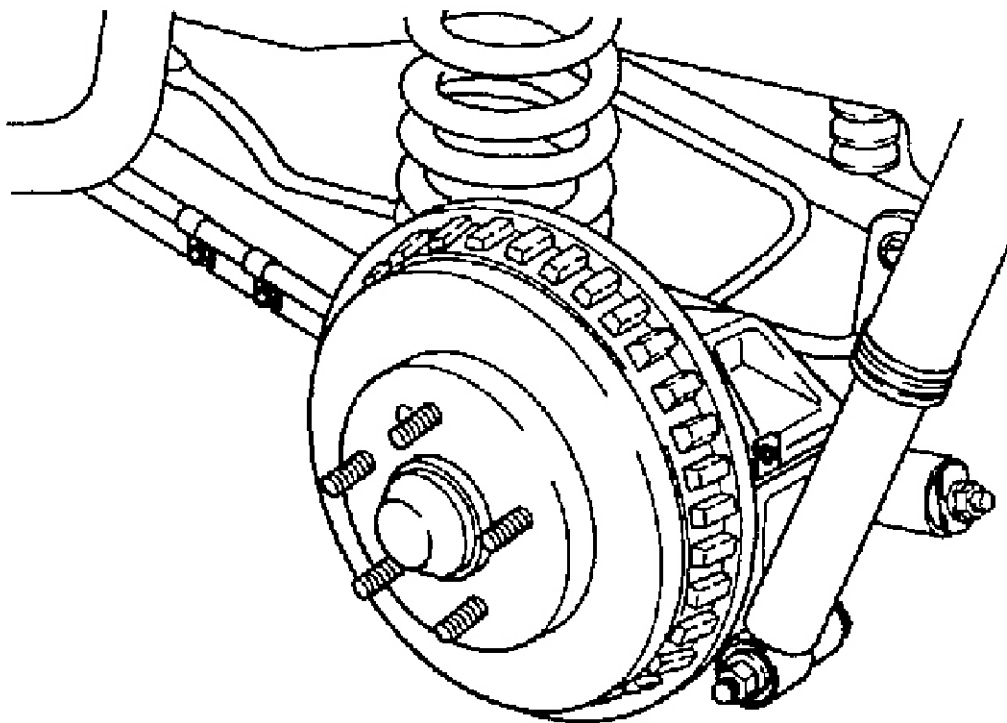
4. Raise the rear axle housing to facilitate removal of the rear suspension.
5. Remove the rear shock absorber safety nut, upper nut and washer.
6. Remove the shock absorber assembly.



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**Fig. 7: Removing The Shock Absorber Assembly**  
Courtesy of KIA MOTORS AMERICA, INC.

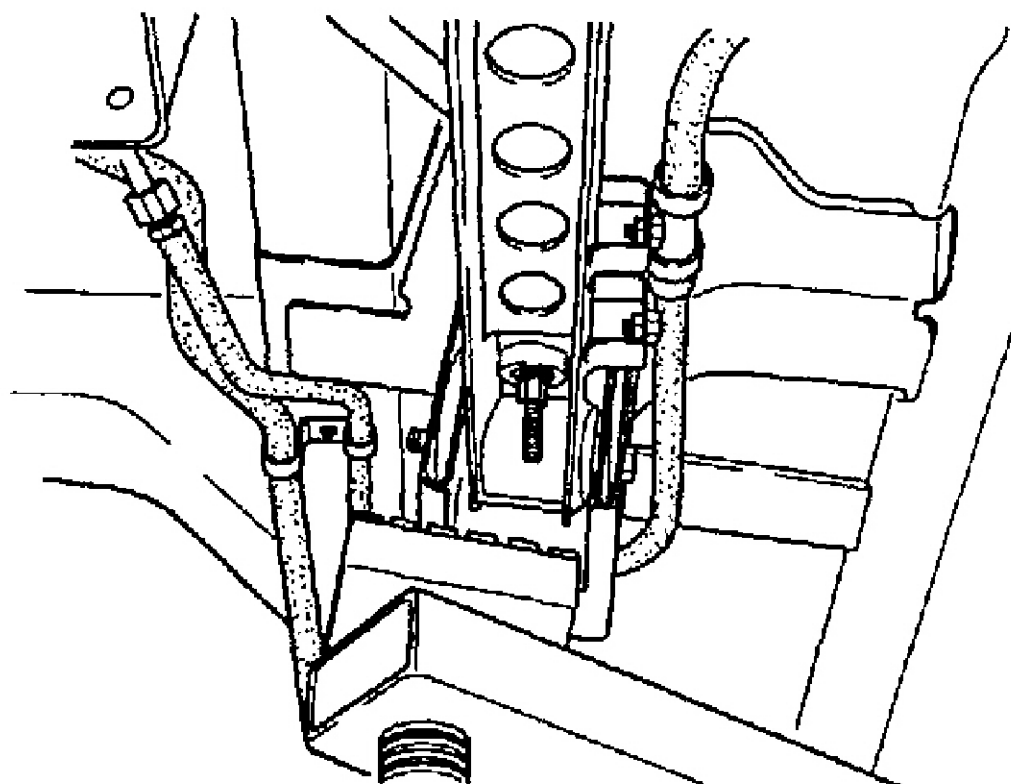
7. Remove the shock absorber lower nut and washer.



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**Fig. 8: Removing The Shock Absorber Lower Nut & Washer**  
Courtesy of KIA MOTORS AMERICA, INC.

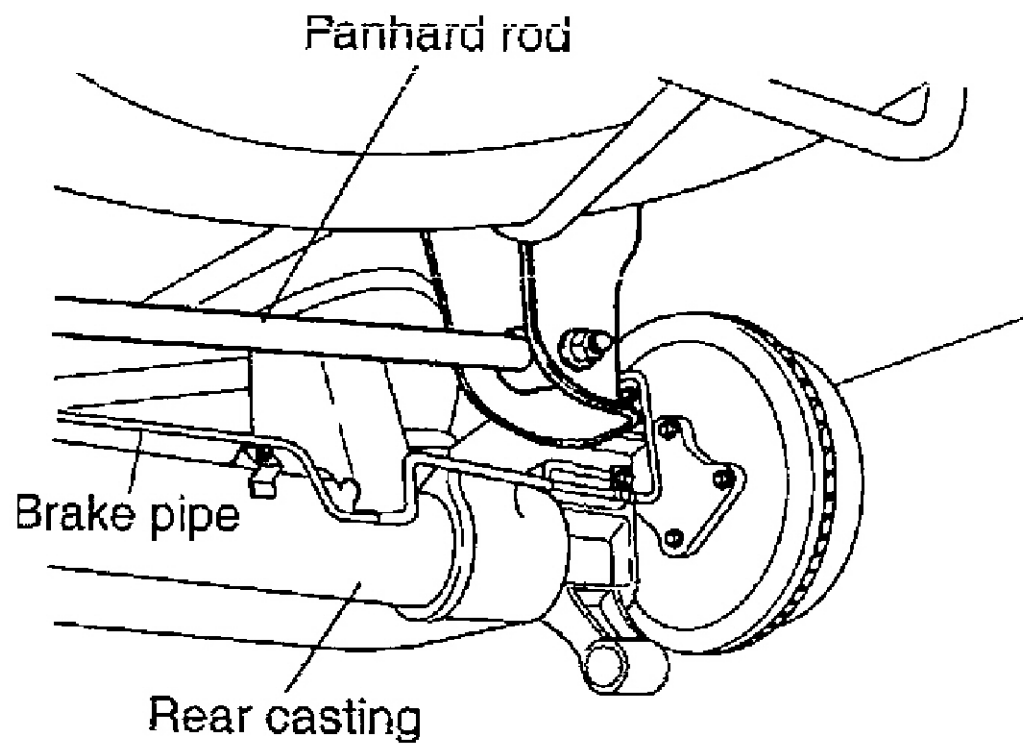
8. Loosen the stabilizer bar bolt and nut and remove pipe, cushions and retainers.



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**Fig. 9: Loosening The Stabilizer Bar Bolt & Nut**  
Courtesy of KIA MOTORS AMERICA, INC.

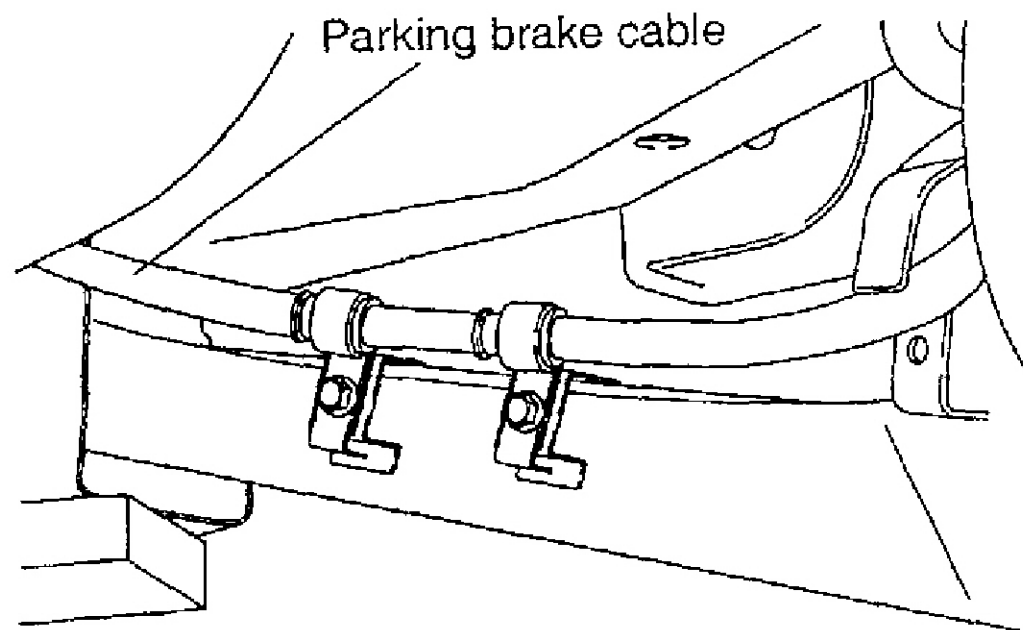
9. Remove the stabilizer plate and rubber bush after loosening bolt from the stabilizer bracket of rear casing.
10. Remove the stabilizer bar.
11. Loosen the panhard rod bolts and nuts and remove the panhard rod.



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**Fig. 10: Removing The Panhard Rod**  
Courtesy of KIA MOTORS AMERICA, INC.

12. Remove the parking brake cable from the lower arm assembly after loosening the parking brake cable bolts.

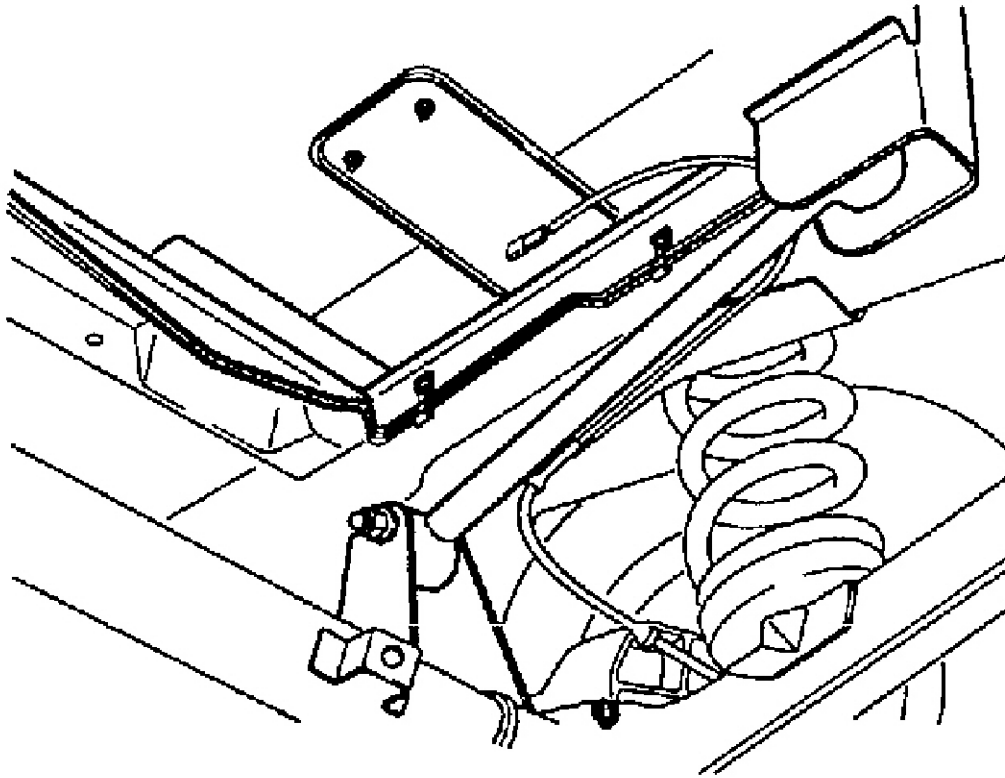


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**Fig. 11: Removing The Parking Brake Cable**  
Courtesy of KIA MOTORS AMERICA, INC.



13. Loosen the lower arm bolts and nuts and remove the lower arm assembly.
14. Loosen the upper arm bolts and nuts and remove the upper arm assembly.



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**Fig. 12: Removing The Upper Arm Assembly**  
**Courtesy of KIA MOTORS AMERICA, INC.**

15. Remove the seat rubber and coil spring.

**REPLACEMENT/INSPECTION**

1. Install the lower arm assembly to the rear casing and tighten the washer bolt and nut.

**Tightening torque:**

**87-101 lb. ft (118-137 N.m, 12-14 kg.m)**

2. Install the seat rubber and coil spring to the lower arm assembly.
3. Tighten the washer bolt and nut to body.

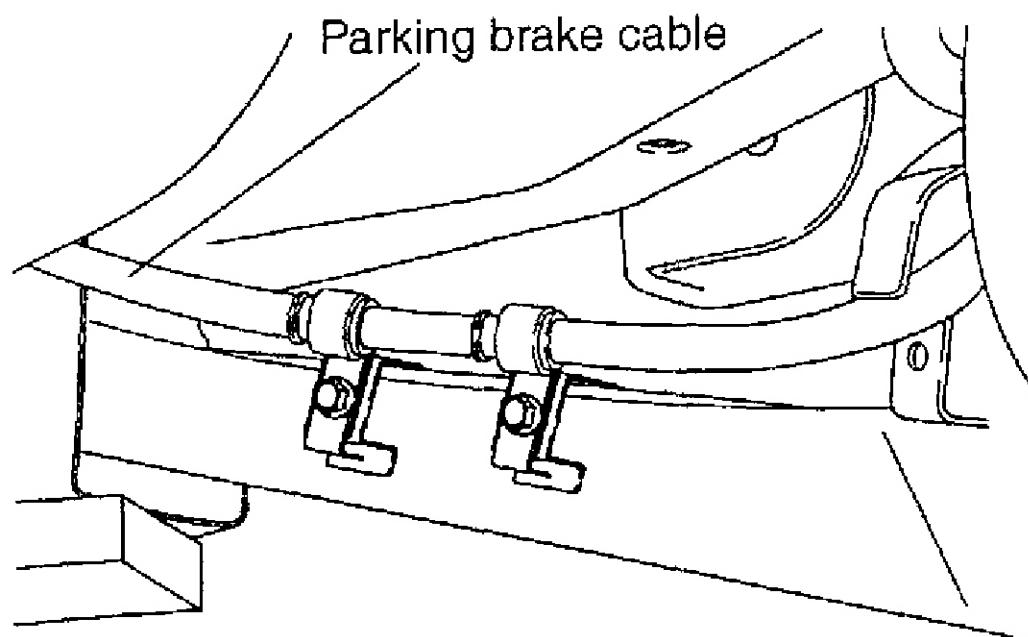
**Tightening torque:**

**87-101 lb. ft (118-137 N.m, 12-14 kg.m)**

4. Install the parking brake cable to the lower arm assembly and tighten the parking brake cable bolts.

**Tightening torque:**

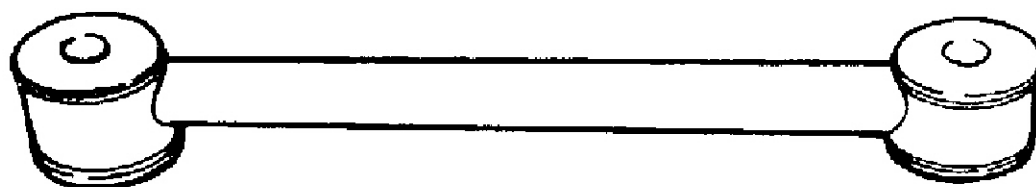
**14-19 lb. ft (16-23 N.m, 1.6-2.3 kg.m)**



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**Fig. 13: Installing The Parking Brake Cable**  
Courtesy of KIA MOTORS AMERICA, INC.

5. Inspect the upper arm for bends, cracks and/or other damage and inspect the upper arm bushings for wear and/or deterioration.



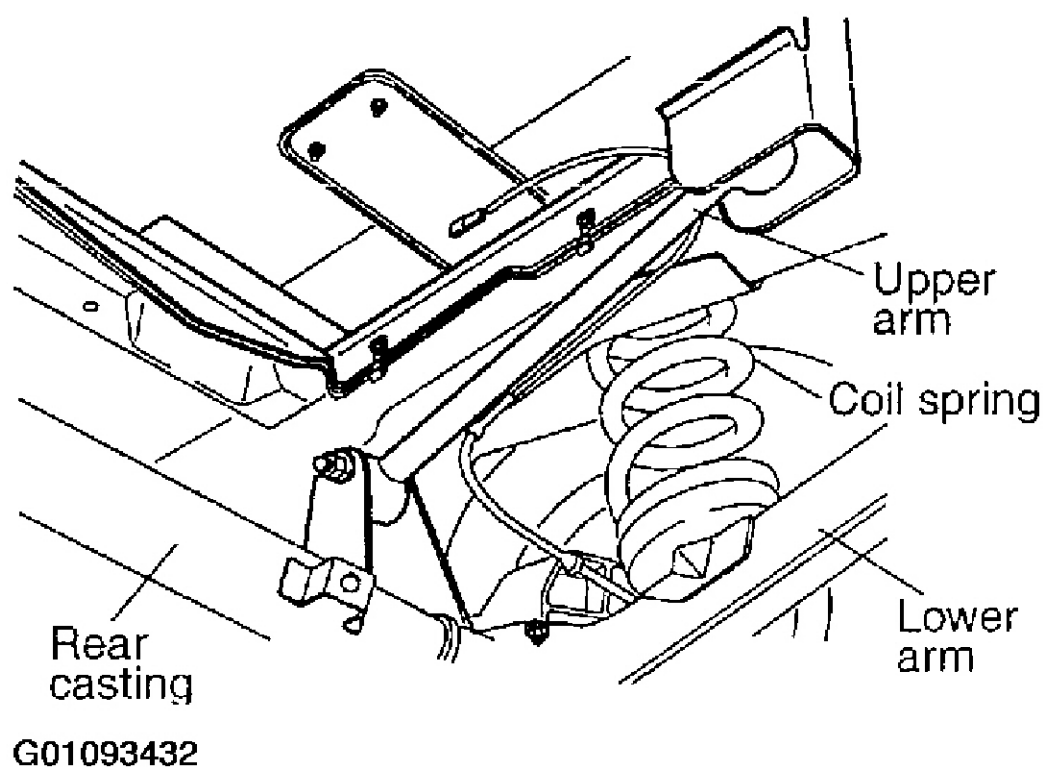
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**Fig. 14: Inspecting The Upper Arm**  
Courtesy of KIA MOTORS AMERICA, INC.

6. Install the upper arm assembly and bolts.

**Tightening torque:**

**55-69 lb. ft (74-93 N.m, 7.6-9.5 kg.m)**



**Fig. 15: Installing The Upper Arm Assembly**  
**Courtesy of KIA MOTORS AMERICA, INC.**

7. Inspect the panhard rod for bend, cracks and/or other damage and inspect the panhard rod bushings for wear and/or deterioration.
8. Install the panhard rod assembly and tighten bolts and nuts.

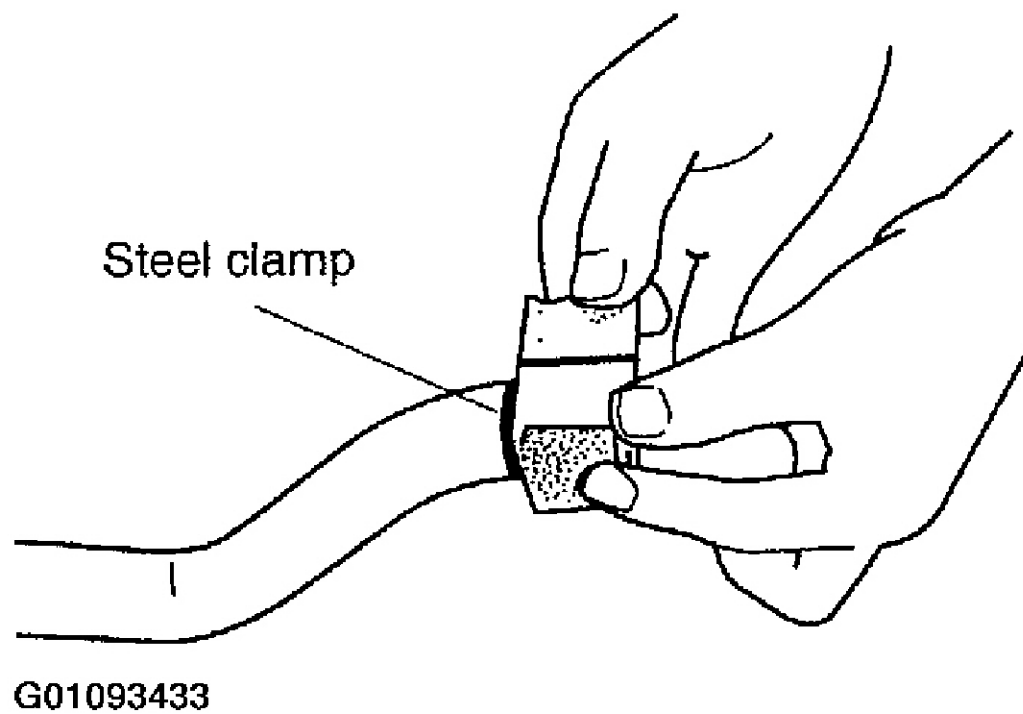
**Tightening torque:**

**Axle: 99-116 lb. ft (134-157 N.m, 13.7-16 kg.m)**

**Body: 135-155 lb. ft (183-210 N.m, 18.7-21.5 kg.m)**

9. Align the stabilizer bushing with the steel clamp on the stabilizer bar.

Located the bushing adjacent to the position line on stabilizer bar.



**Fig. 16: Aligning The Stabilizer Bushing**  
Courtesy of KIA MOTORS AMERICA, INC.

10. Tighten the stabilizer bolts to rear casting.

**Tightening torque:**

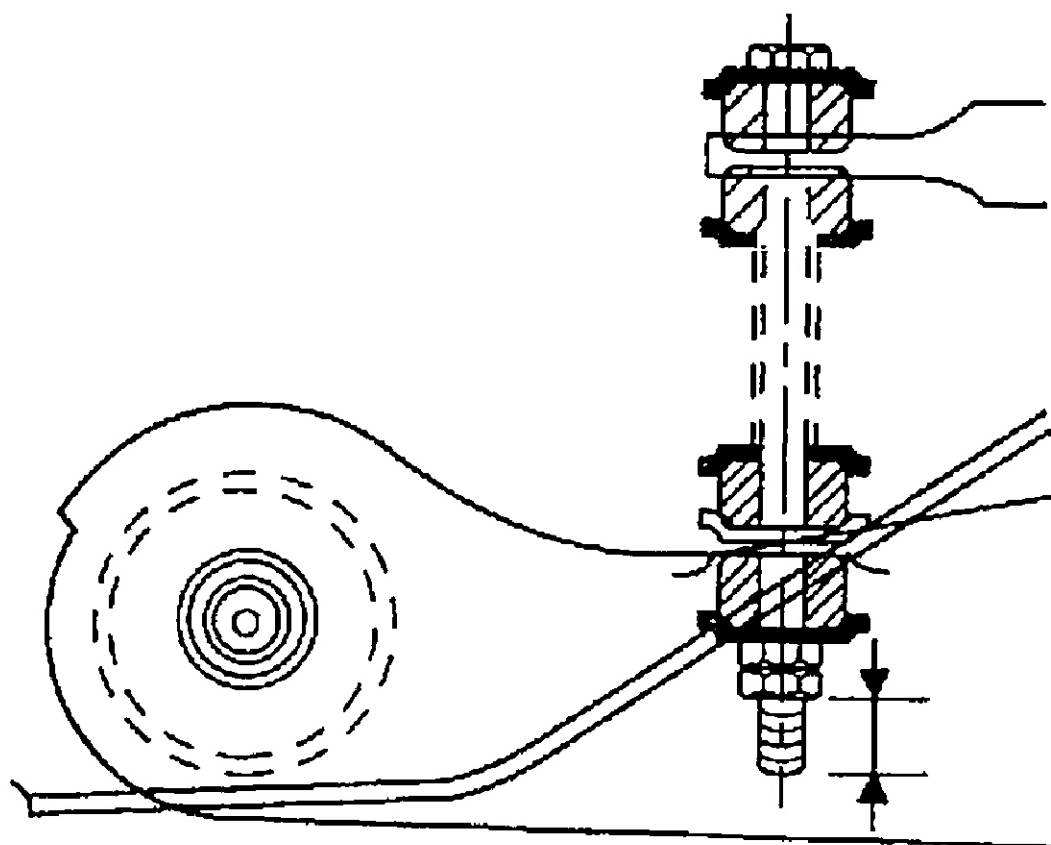
**32-40 lb. ft (43-54 N.m, 4.4-5.5 kg.m)**

11. Tighten the stabilizer nuts so that the specified length of the thread is exposed and then tighten the lock nuts with the specified tightening torque.

**Specification: 0.37-0.60 in. (9.4-15.4 mm)**

**Tightening torque:**

**17-20 lb. ft (24-28 N.m, 2.4-2.9 kg.m)**



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**Fig. 17: Tightening The Stabilizer Nuts**  
Courtesy of KIA MOTORS AMERICA, INC.

12. Install the shock absorber bracket and tighten bolts.

**Tightening torque:**

55-69 lb. ft (74-93 N.m, 7.6-9.5 kg.m)

13. Tighten the shock absorber nuts until the specified length of the thread is exposed.

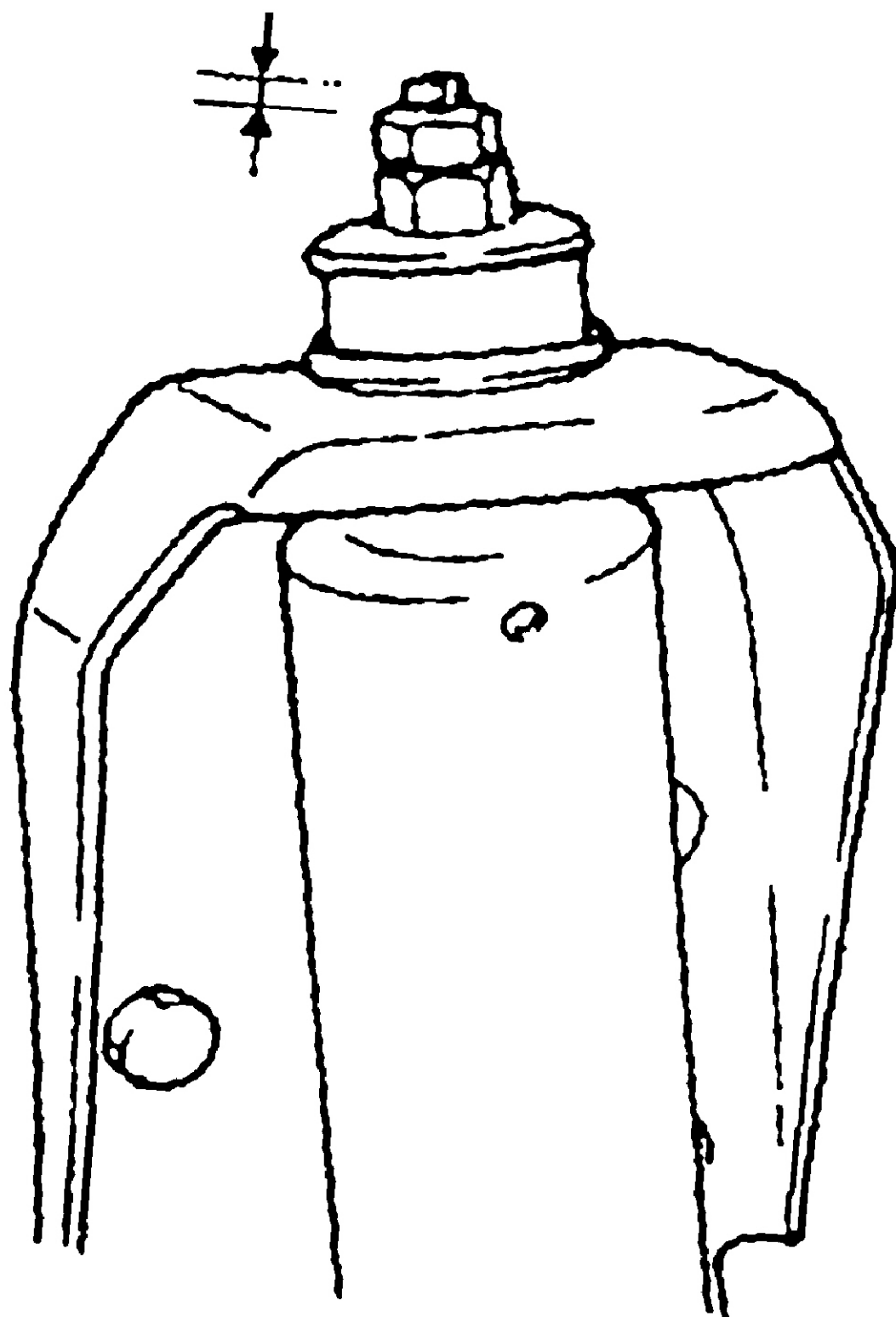
**Tightening torque:**

41-47 lb. ft (55-64 N.m, 5.6-6.5 kg.m)

**Specification:** 0.41-0.45 in. (10.5-11.5 mm)

**CAUTION:**

- Tighten bolts and nuts lightly, and after lowering the vehicle (no passenger load condition) tighten it to the specified torque.
- Do not remove rear jounce stop unless damage is detected.



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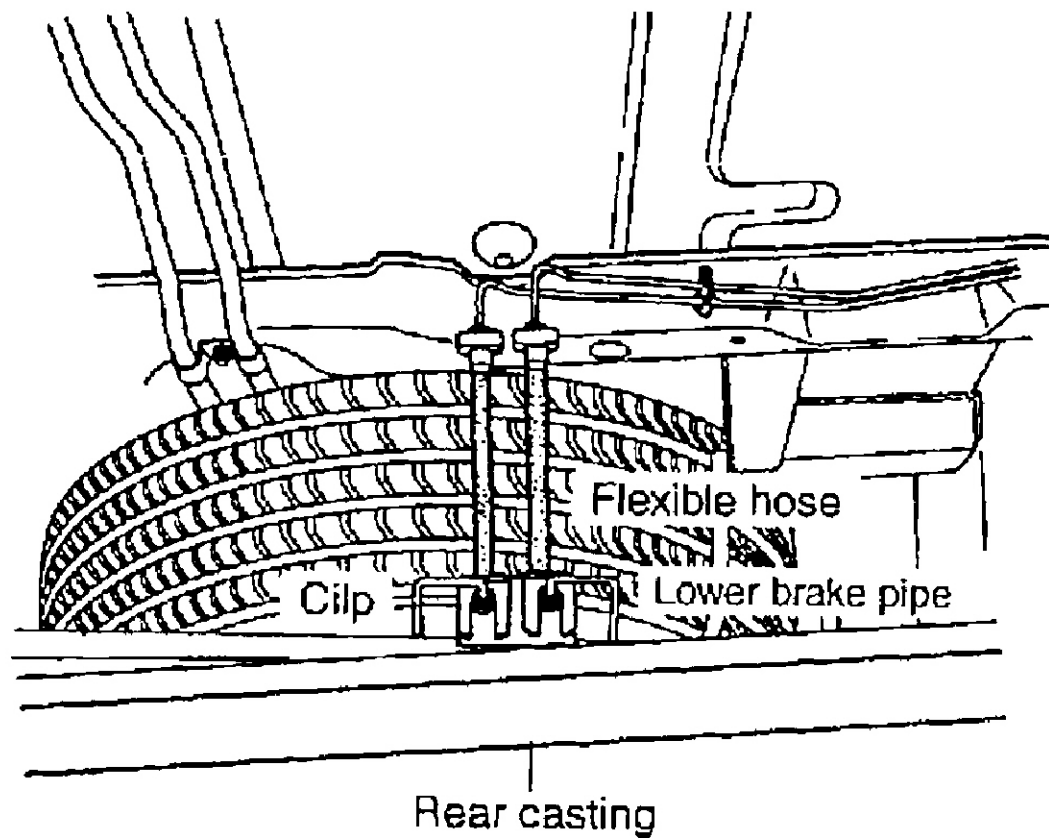
**Fig. 18: Tightening The Shock Absorber Nuts**  
Courtesy of KIA MOTORS AMERICA, INC.

14. Tighten the shock absorber lower bolts and nuts.

**Tightening torque:**

**55-69 lb. ft (74-93 N.m, 7.6-9.5 kg.m)**

15. Lower the rear axle housing.
16. Connect the lower brake pipes and flexible hoses and fix the flexible hose clips to the bracket of rear casting.



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**Fig. 19: Connecting The Lower Brake Pipes & Flexible Hoses**  
**Courtesy of KIA MOTORS AMERICA, INC.**

17. Install wheel and tires.
18. Lower vehicle.

2005 Kia Sedona EX
2004-05 SUSPENSION Rear Suspension - Sedona



<b>2005 Kia Sedona EX</b>
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